1. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$-11x^2 - 9x + 4 = 0$$

A. $x_1 \in [-1.28, -1.09]$ and $x_2 \in [-0.5, 0.7]$

B. $x_1 \in [-3.72, -3.35]$ and $x_2 \in [12, 14.5]$

C. $x_1 \in [-0.89, 0.42]$ and $x_2 \in [1.1, 2.7]$

D. $x_1 \in [-16.89, -16.06]$ and $x_2 \in [15.5, 16.3]$

E. There are no Real solutions.

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2. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$16x^2 + 24x + 9$$

A. $a \in [1.76, 2.61]$, $b \in [0, 4]$, $c \in [7.67, 8.57]$, and $d \in [0, 7]$

B. $a \in [0.23, 1.18]$, $b \in [9, 17]$, $c \in [0.55, 1.74]$, and $d \in [10, 15]$

C. $a \in [6.8, 8.12]$, $b \in [0, 4]$, $c \in [1.38, 2.63]$, and $d \in [0, 7]$

D. $a \in [3.19, 5.11]$, $b \in [0, 4]$, $c \in [3.7, 4.25]$, and $d \in [0, 7]$

E. None of the above.

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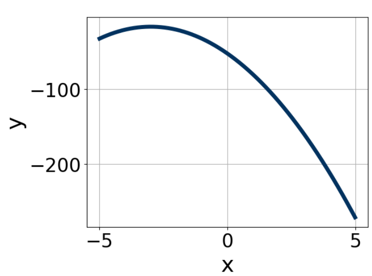
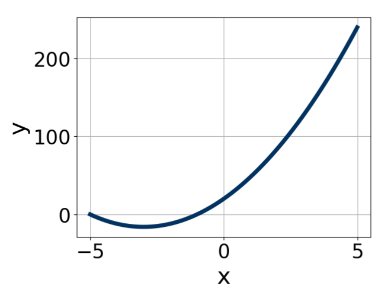
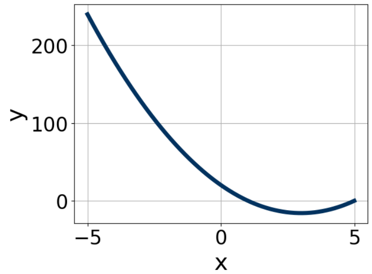
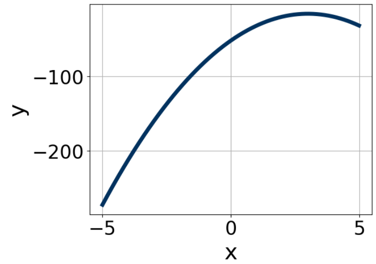
3. Graph the equation below.

$$f(x) = (x - 3)^2 - 16$$

A. 

B. 

C. 

D. 

E. None of the above.

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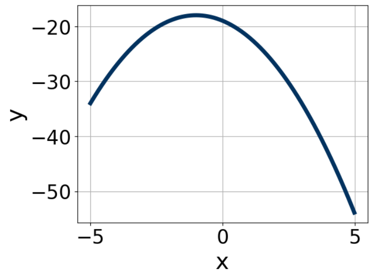
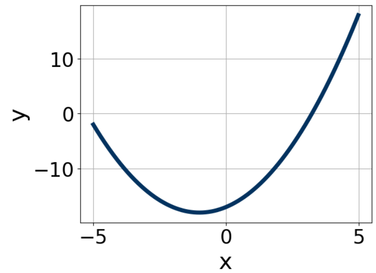
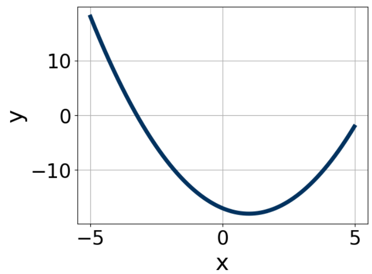
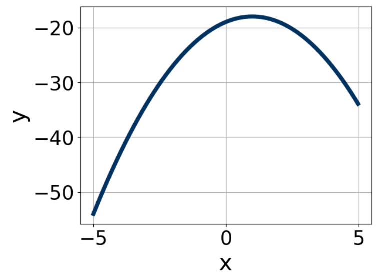
4. Graph the equation below.

$$f(x) = (x + 1)^2 - 18$$

A. 

C. 

B. 

D. 

E. None of the above.

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5. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$14x^2 - 14x - 9 = 0$$

A. $x_1 \in [-0.71, -0.11]$ and $x_2 \in [1.1, 4.1]$

B. $x_1 \in [-6.29, -5.55]$ and $x_2 \in [18.1, 21.6]$

C. $x_1 \in [-26.62, -25.55]$ and $x_2 \in [23.9, 28.9]$

D. $x_1 \in [-2.38, -1.09]$ and $x_2 \in [-1.1, 0.9]$

E. There are no Real solutions.

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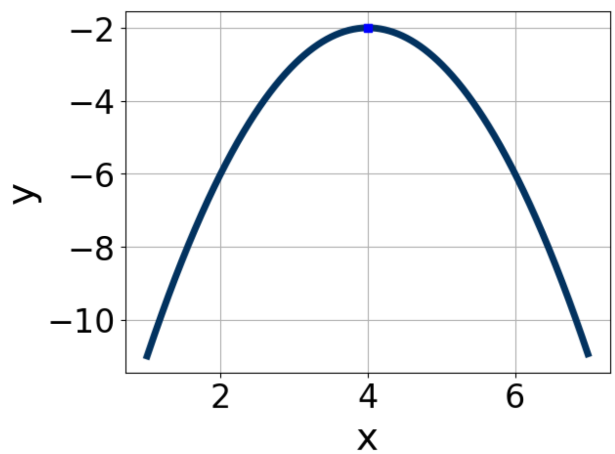
6. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-0.2, 2.2], \quad b \in [8, 12], \text{ and } \quad c \in [14, 16]$

B. $a \in [-0.2, 2.2], \quad b \in [-9, -7], \text{ and } \quad c \in [14, 16]$

C. $a \in [-1.6, 0.9], \quad b \in [-9, -7], \text{ and } \quad c \in [-18, -17]$

D. $a \in [-1.6, 0.9], \quad b \in [-9, -7], \text{ and } \quad c \in [-16, -9]$

E. $a \in [-1.6, 0.9], \quad b \in [8, 12], \text{ and } \quad c \in [-18, -17]$

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7. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 + 65x + 36 = 0$$

A. $x_1 \in [-9.06, -8.32]$ and $x_2 \in [-0.18, -0.1]$

B. $x_1 \in [-2.41, -1.75]$ and $x_2 \in [-0.83, -0.78]$

C. $x_1 \in [-45.56, -44.72]$ and $x_2 \in [-20.11, -19.97]$

D. $x_1 \in [-5.64, -5.34]$ and $x_2 \in [-0.28, -0.2]$

E. $x_1 \in [-1.79, -1.48]$ and $x_2 \in [-0.93, -0.87]$

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8. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$36x^2 - 60x + 25$$

A. $a \in [4.1, 7.1], \quad b \in [-13, 3], \quad c \in [4.6, 6.4], \text{ and } \quad d \in [-10, -3]$

B. $a \in [10.6, 13], \quad b \in [-13, 3], \quad c \in [1.7, 3.5], \text{ and } \quad d \in [-10, -3]$

C. $a \in [-2.1, 1.1], \quad b \in [-31, -25], \quad c \in [0, 2.2], \text{ and } \quad d \in [-30, -24]$

D. $a \in [2, 3.3], \quad b \in [-13, 3], \quad c \in [10.4, 14.2], \text{ and } \quad d \in [-10, -3]$

E. None of the above.

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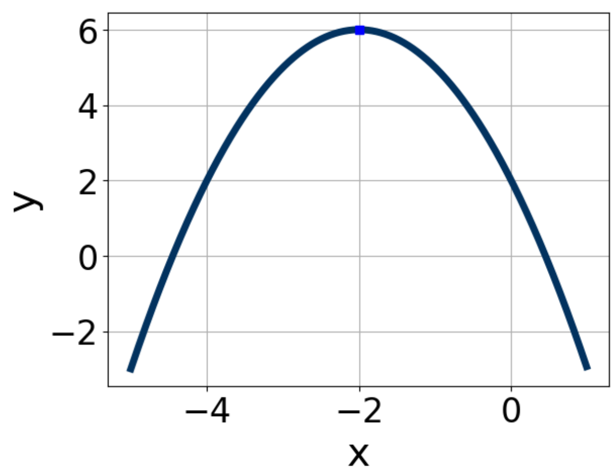
9. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [0, 4], \quad b \in [-6, -2], \text{ and } \quad c \in [8, 11]$

B. $a \in [-3, 0], \quad b \in [4, 6], \text{ and } \quad c \in [-11, -7]$

C. $a \in [-3, 0], \quad b \in [4, 6], \text{ and } \quad c \in [0, 5]$

D. $a \in [0, 4], \quad b \in [4, 6], \text{ and } \quad c \in [8, 11]$

E. $a \in [-3, 0], \quad b \in [-6, -2], \text{ and } \quad c \in [0, 5]$

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10. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$15x^2 + 7x - 36 = 0$$

A. $x_1 \in [-1.4, 0.26]$ and $x_2 \in [3.9, 4.44]$

B. $x_1 \in [-27.42, -25.33]$ and $x_2 \in [19.3, 20.36]$

C. $x_1 \in [-2.55, -0.86]$ and $x_2 \in [1.33, 1.38]$

D. $x_1 \in [-9.22, -8.23]$ and $x_2 \in [-0.64, 0.39]$

E. $x_1 \in [-4.63, -2.83]$ and $x_2 \in [0.31, 1.16]$
